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Massachusetts Department of Agriculture

ARBOR AND BIRD DAY

1920

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ARBOR AND BIRD DAY

HOW ARBOR AND BIRD DAY WAS ESTABLISHED

The resolve establishing Arbor Day in Massachusetts was passed in 1886. In 1917 this law was amended in such a way as to require the Governor of the Commonwealth to issue annually a proclamation setting apart the last Saturday in April as Arbor and Bird Day, recommending that the public observe it by planting trees, shrubs and vines, particularly those attractive to birds, and promoting forest grounds and ways, and by such other undertakings as harmonize with the general character of the day. The Governor is required further to recommend that the Friday preceding the last Saturday of April be observed by the rural schools of the Commonwealth with appropriate exercises.

SUGGESTED PROGRAM FOR ARBOR AND BIRD DAY

[Adapted from Arbor and Bird Day Manual, West Virginia, March 26, 1915.]

Song,	School
Scripture reading, the One Hundred and Fourth Psalm,	Teacher
Reading of the Arbor and Bird Day Proclamation of the Governor,	Teacher or Older Pupil
Essay, Our Feathered Friends,	Pupil
Essay, The Value of Trees,	Pupil
Song, selected,	School
Quotations, declamations and suggestions.	
Readings,	By Various Pupils
Short talks by patrons of the school: —	
(*a*) A Farmer's Appreciation of the Quail.	
(*b*) The Relation of Forests to Agriculture.	
(*c*) Beautifying Home and School Grounds.	
Song, "America,"	School
Planting the tree on the school grounds,	School

SCHOOL FORESTS

A SUGGESTION TO TEACHERS

Many of the best schools in the country have introduced courses in Nature Study. Some courses are more elaborate than others, since there has been little effort as yet to standardize this branch of knowledge for study in the schools, but it is generally recognized that the best way to study nature is in her own workshop. Whether gardens, birds, insects or trees are studied, the most satisfactory way to learn about the things of nature is in the field.

The observance of Arbor and Bird Day has become an established custom in Massachusetts as in many other States, but one day in each year is not enough to devote to this important work. The original purpose of Arbor Day was to further the planting of trees, shrubs and vines, but, so far as the schools are concerned, the practical results obtained have not been altogether satisfactory. In too many instances the day has been treated more as a holiday than as a time for serious effort.

One of the chief reasons for this has been the fact that the teachers have had no place to take the children where they could actually plant trees themselves. If each town or school could have a small area where each year the children could go for one or more days to plant little trees, and where they could watch them grow from year to year, it would not only teach them to know the trees and how to plant them, but it would instill in them a love and an appreciation of the individual tree and the forest. It would develop the powers of observation and awaken the imagination. To be able to see and appreciate the beauty in nature is a perpetual source of pleasure. The child whose mind is trained to do this will possess an increased faculty of enjoying the world about him, which is certain to lead to a richer, broader experience in life.

In European countries the school children are taken into the forest to plant trees. There many towns own forests, as our towns and cities have parks. Men and women living to-day can point with pride and satisfaction to large forest trees which as school children they planted. Why should we not adopt this excellent custom in Massachusetts?

LET US MAKE A BEGINNING

Are you and your associates interested in starting a little forest for your school? If you are, the Massachusetts Forestry Association may be able to help you. Is there within reasonable walking distance from your schoolhouse an abandoned farm, a cut-over woodlot, or an old run-out pasture which is not fit for growing crops? If so, will it not be possible to acquire a part of it in the name of the town for school purposes?

How can we go about it? Here are some suggestions.

1. First, find some land fitted only for growing trees near the schoolhouse, if possible, and learn the name of the owner.
2. See if the owner will sell or give the land to the school.
3. If not, petition the school board to purchase land for the school.
4. If that is not possible, apply to the selectmen for help. Such land should not cost over $10 an acre, and in many places it can be bought for less. You do not need a large area to start with. An acre or two is enough.
5. Public subscriptions may be utilized, if necessary, to raise the money to buy the land. The little trees may be bought at cost from the Conservation Department of the State at the State House, if it has a sufficient supply. Otherwise they may be obtained from a nursery or dug up in near-by woods and planted in the school forest.
6. The tree warden or forest warden of your town can give you advice in planting, and he will be glad to help you to begin the work. Once the land is obtained, it will be easy to get the required trees for planting each year.

The Massachusetts Forestry Association will give you all the help possible in this matter, if you decide to make the effort to establish a school forest. The association may have members in your town who will come to your assistance. The school forest is new in this country, but there are several schools which have done planting on the watersheds of their towns or cities. Please write to the Massachusetts Forestry Association, 4 Joy Street, Boston, if you are interested. Give what information you have as to the land desired, the name of the owner and what efforts you have made. It will be a great satisfaction in after years to any teacher or group of teachers who can establish a school forest now.

SELECTIONS FOR AN ARBOR AND BIRD DAY PROGRAM, TO BE READ TO THE SCHOOL

FOREST FIRES

The people of Massachusetts have lost millions of dollars by forest fires. For the past five years the average annual loss has been about $170,000, and an average of 42,000 acres have been burned over each year. The timber burned is not the only loss. Fire kills the little seedling trees and burns the old leaves and little branches which cover the ground in a forest. These, if not burned, help to hold the rain water from running off, and it soaks into the ground, coming out through springs in the summer, which keep the streams from going dry. In countries where there are no forests the rain that falls on hills and mountains runs off quickly after each storm and causes floods, which result in the washing away of buildings, bridges, farm crops and valuable soil in the valleys below. In many cases large numbers of people have been drowned by such floods. A forest fire, therefore, causes much more loss than that of the timber that it burns.

Fires in the woods in spring or summer often destroy the eggs or young of many birds, and those that nest on the ground cannot safely build their nests where fire has been, as there is no cover to hide them from their enemies. Did you ever think that forest fires, by killing trees and thus reducing the amount of available timber, make us pay more for the lumber we use to build our houses and other buildings, and that when we have to pay more for lumber it means that this increases rents, and so costs us more to live?

We should be as careful with fire in the woods as we are in our homes. ALWAYS BREAK A MATCH AFTER USING IT. After you have broken it you may be sure that it is out. This is the only safe way to use matches. Loss from forest fires can be greatly reduced if all will be more careful when using matches. Never start a fire in the open without seeing that it is completely out before leaving it.

If a forest fire starts in your neighborhood, use the nearest telephone to notify the town forest warden. The secret of fighting forest fires is to reach them before they have had time to spread over much ground. Every boy and girl should act as a forest fire warden in his or her town.

THE WHITE PINE BLISTER RUST

A SERIOUS MENACE TO OUR PINES

The white pine is the most valuable tree that we have. We must protect it. There is a disease called the white pine blister rust which attacks and kills it. This disease was brought into this country on young white pines from Germany. It has not been here long, but has spread already into nearly every town in the State.

This disease is a little plant. It cannot spread from one tree to another, as the influenza spreads from one person to another, but it goes from a diseased pine to the leaves of currant or gooseberry bushes, where it grows for a time and produces little seeds called spores. These blow from the currant and gooseberry leaves to the white pine trees, and they become diseased. A pine tree never recovers from this disease. It may take several years to kill a large pine, but little pines are killed in two or three years.

The only way we know at present to fight this rust and save the pines is to destroy the currant and gooseberry bushes which are within 200 or 300 yards of the pines. There are several kinds of these currant and gooseberry bushes, and they are all dangerous. To protect the pines you should learn to know a currant or gooseberry bush, and should pull them up by the roots when you see them in the woods where pine trees grow.

If you will write to the State Department of Agriculture, Room 136, State House, Boston, you can obtain free of charge a circular with colored pictures which show how the pine blister rust looks both on the pine and on the currant and gooseberry leaves. These will help you to find the disease if it is in your neighborhood.

PLANT A MEMORIAL SHADE TREE

In the year 1620, three hundred years ago, the Pilgrims landed at Plymouth Rock. You have heard of the hardships which they endured in order to found the free government under which we live. Why should you not plant a tree this year in memory of the date when these brave men and women established the first settlement in Massachusetts? We build monuments of stone in their honor, but these cannot be built everywhere. Why should we not have a living monument to the Pilgrims in the form of a growing tree on our own school grounds? We owe many of the privileges that we now have to these hardy forefathers, and anything we can do to keep their memory green should be done. We shall be better Americans and better citizens if we honor the men and women who did so much to establish the great Commonwealth of Massachusetts and to found the United States of America. To plant a tree is a small task, but if we do it in the spirit of reverence for the founders of our country, it will be an inspiration to follow their unselfish example and devote our lives to the task of preserving for future generations the freedom that we enjoy.

HOW TO PLANT A MEMORIAL TREE

1. Select a tree from 10 to 12 feet high, of a kind similar to those now growing in your vicinity.
2. Whether you get it from the woods, or receive it from a nursery, be sure to always keep the roots moist. A wet bag about the roots will keep them moist.
3. Dig a hole large enough to accommodate the roots without bending them, and if possible get some rich soil to place about them.
4. Cover the roots to about the same depth as before they were dug.
5. Stamp the earth solidly about them.
6. If the soil is dry pour a couple of buckets of water on it as it is being placed about the roots.
7. Leave the soil on top loose for an inch or two in depth.
8. Cut off the limbs up to 6 feet, and any other limbs that are irregular or which rub against the others. DO NOT CUT THE LEADER OR TOP OF THE TREE.
9. Place a guard about the tree. This may be a wire guard which can be bought, or a fence may be made by driving three posts into the ground at equal distances apart around the tree and nailing strips to them.
10. ASK THE TREE WARDEN OF YOUR TOWN TO HELP YOU SELECT AND PLANT THE TREE.

HOW TREES PROTECT THE BIRDS

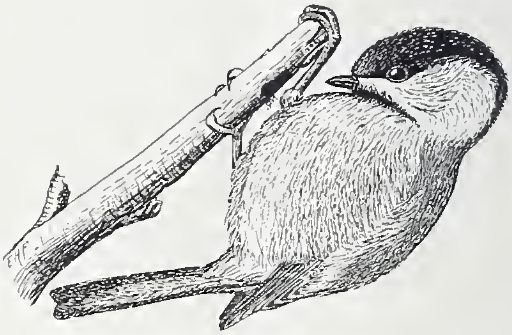
Trees protect birds by furnishing them nesting places and sheltering them from sun, wind and storm. The trees offer food to the birds in the shape of buds, fruit and seeds, and in the form of insects that live upon the trees. In the trees birds find safety from all their enemies that cannot climb or fly, and the foliage of the trees often hides them from all enemies. The knotholes in a hollow tree offer the birds a chance to conceal their nests in the heart of the tree, and the entrance hole is often so small that most of the larger enemies of birds cannot get in. Large leaves overhanging a nest or a roosting bird act like an umbrella and shed the rain, keeping the sleeping bird dry or sheltering the tender young in the nest. In the cold of winter evergreen thickets keep out the piercing wind, so that birds roosting there may sleep warm and dry, and the dense foliage of summer shuts out the sun and cools the air so that the young birds on the nests may not be parched and die, as they might if unprotected from the blazing sun. The trees furnish twigs, leaves and strips of bark for nest building. Indeed, they seem made especially for the convenience and protection of the birds.

HOW BIRDS PROTECT THE TREES

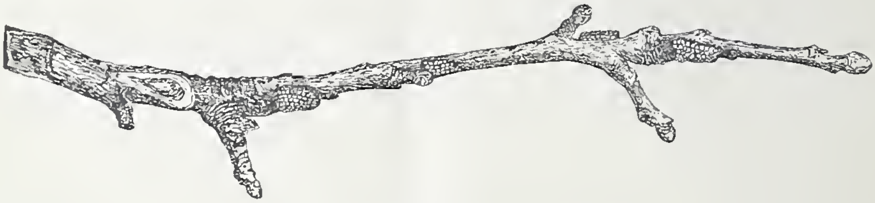
When you go out into the woods do you notice what the birds are doing? It is interesting and important to know what birds *do* in the world, — whether from our standpoint they do good or harm.

Many years ago a boy watched a vireo singing in a sunny thicket. The bird sang nearly all the time, but now and then it stopped, and the boy saw that when its singing ceased it found, killed and swallowed a caterpillar. Then, for the first time, he realized that birds destroyed the enemies of the trees.

In the winter of 1894–95 this boy, then grown to manhood, experimented in attracting birds to an orchard. He tied beef bones and suet on the limbs, and this brought chickadees, woodpeckers and nuthatches, which fed on shreds of meat left on the bones, and on suet and marrow. The birds stayed about the orchard all winter. They ate the eggs of the fall cankerworm moths which cling to the twigs. They ate the moths of the spring cankerworm when they crawled up the tree to lay their eggs, and they ate the eggs of the tent caterpillar moth and those of other insects, which if allowed to hatch would have produced worms that eat up the leaves of the trees and so destroy the fruit.

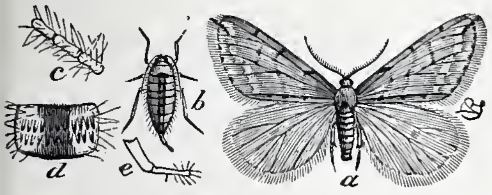


The black-capped chickadee.



Eggs of the cankerworm moth on apple twig.

When spring came nesting boxes and bird houses were put up to call the summer birds to the orchard. The result of attracting the birds was that this was the only orchard in that region that produced any fruit. It had a good crop of apples, while tent caterpillars, cankerworms, gypsy moths and other insects so stripped the trees elsewhere in the town that they bore no fruit.



Moth of fall canker worm: *a*, male; *b*, wingless female; *c*, *d*, structural details.

Eggs of tent caterpillar moth.

We know that the birds destroyed the insects and insects' eggs upon these trees, for they were seen to do it, and by watching them carefully we concluded that during the twenty-five days in which cankerworm moths crawled up the trees to lay their eggs a single chickadee destroyed more than 38,000 of these eggs. It is worth while to learn how insects kill trees and how birds can protect the trees against these destroyers.

WHY ARE INSECTS DESTRUCTIVE TO TREES

Insects injure or kill trees (1) because they eat the different parts of trees; (2) because there are so many insects; (3) because each one eats so much; (4) because each female produces so many young; and (5) because so many kinds of insects eat each tree.

All parts of the tree are attacked by insect pests. Caterpillars eat the leaves; many sucking insects take the sap; borers, girdlers and other insects eat the twigs, limbs and trunk; grubs feed on the roots. The number of kinds of insects is far greater than that of all kinds of other living creatures combined. It is not improbable that there are a million different kinds of insects in the world, and the number of each kind is beyond imagination. Dr. Fitch estimated that there were 12,000,000 plant lice on one little cherry tree, and this was only one tree in a row on which these insects were swarming.

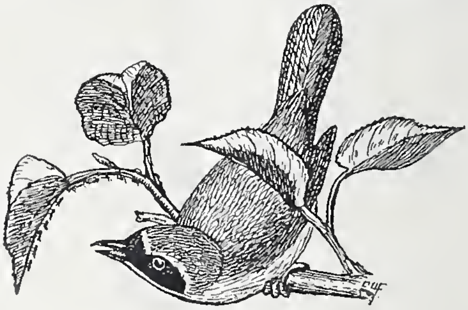
Many caterpillars consume daily twice their own weight of leaves. If an ox were to eat food in the same proportion he would devour every twenty-four hours three-quarters of a ton of grass. It has been estimated that the offspring of a single gypsy moth, providing all lived and had young of their own, would be so many that in eight years they would devour all the leaves of all the trees in the United States. If the leaves are destroyed continually the tree must die, for it breathes through its leaves.

A gypsy moth has been known to lay 1,400 eggs. If nothing should happen to kill the young of a single plant louse the number of its offspring, including all the generations produced in a year, would be more than that of all the people in the Chinese Empire.

Each kind of tree is attacked by from 30 to 200 kinds of insects, and the oaks of the United States have over 400 insect enemies.

Various authorities have computed the damage done by insects to farm products and forests in the United States, and it is now known that the loss caused to the country by caterpillars, grubs, moths and other insects amounts to more than a billion dollars each year. In Massachusetts alone the loss to the people by the destruction of farm crops and trees by insects was estimated at nearly $5,000,00 a year in the year 1901, and the damage now is far greater because farm and fores products are worth much more than when these estimates were made.

Birds protect the trees because they eat enormous numbers of destructive tre insects and feed many more to their young. Young birds eat so much that the grow very fast. The period from the moment they are hatched until the time whe they are ready to fly varies from eight days to several weeks. Such quick growt requires a great amount of food. Many people have experimented in feeding youn birds, and have found that on an average each one needs a quantity of food eac day equal to more than half its own weight. A single robin ate in one day 14 fee in length of caterpillars and earthworms. Another ate 165 cutworms, which wer one and five-sixth times its own weight. The parents feed the young birds in th nests, beginning at the first break of day, and continue feeding them much of th time until dark. A pair of martins were watched one day and seen to feed their youn 312 times in 16 hours, and wrens have been known to feed their young from 40 t 60 times in an hour. The parent birds are so active that they also require a grea quantity of food. Some idea of the number of insects the parent birds consume ma be learned from examining the stomachs of dead birds. Professor Harvey foun 500 mosquitoes in the stomach of a nighthawk. When one examines the stomach of birds he often finds them so full of insects that when the stomach is cut open an its contents are released they expand or swell to three times the size of the origina stomach with the food all in it. Birds often eat so much that the stomach, the cro or gullet, and the throat are filled clear to the mouth. Sixty grasshoppers were foun in the stomach of a nighthawk; 7,500 weed seeds were found in the stomach of mourning dove, 6,400 in another, and 9,200 in another. The stomachs of four ban swallows contained 200 ants. The nighthawk has been known to eat 1,000 ants a a single meal. A pair of yellowthroats were seen eating tiny plant lice. One of the swallowed 89 of these insects in one minute, and they continued eating at this rat for forty minutes. Two scarlet tanagers were seen eating very small caterpillars o the gypsy moth for eighteen minutes at the rate of 35 a minute. If they ate at thi rate for an hour each day they would consume 14,700 of the little caterpillars i a week. It is easy to see, then, that if we have birds enough they will destroy th enemies of the trees.



Yellowthroat eating plant lice.

WHAT HAPPENS WHEN THE BIRDS ARE KILLED OFF

Frederick the Great, King of Prussia, was very fond of cherries, but the sparrow came and ate up his favorite fruit. He then issued orders that the sparrows shoul be exterminated. The fowlers and hunters came and commenced to kill off th sparrows. They not only destroyed the sparrows, but many other birds. Thos that were not killed were driven away by the measures taken against the sparrows. Two years later the trees were robbed of their foliage by caterpillars and other insects, and not only the cherries but most other fruits were wanting. The Emperor, seeing his error, imported birds at a considerable expense to take the place of the birds that had been killed. In 1858 birds were unusually numerous in the park at Brussels, Belgium. They became so abundant there that they were voted a nuisance, and an order was sent forth that they be killed. Later it was found that they had been attracted by the abundance of insect pests, particularly the caterpillars of the gypsy moth. When the birds were destroyed the caterpillars had it all their own way, and stripped all the leaves from the trees. In 1892, in the region about Ekaterinburg, in Russian Siberia, most of the birds were killed and their feathers sent abroad by wagonloads for ladies' hats. Before another year had passed the foliage of the trees was destroyed, the grasses and the crops also, by cutworms, locusts, etc., so that there was no food for the people, and a famine was produced. At last the people saw their error, and a law was passed to protect the birds.

THE VOICE OF ARBOR DAY

Plant me a tree, and plant it well,
  And water it with care,
That it may grow and rear its head
  High in the upper air,
And cast its cooling shades below
  To cheer some way-worn soul,
Who, footsore with life's weary load,
  Toils onward to the goal.

Plant me a rosebush by the way
  Where men are wont to tread,
That it may bud, and bloom and blow,
  And heavenly perfume shed,
To lure the weary traveler
  Along the thorny road
And make him, for a while, forget
  The burden of his load.

Plant me some creeping vine to cling
  To casement, dome and spire,
Surmounting every obstacle
  In its unquenched desire,
To mount up towards the fadeless blue
  And breathe the purer air,
Inspiring restless, buoyant youth
  To strive, and do and dare.

Within the breast of mother earth
  There lies a potent power,
Touched by the magic of thy hand,
  And kissed by sun and shower,
Transforms the most neglected spot
  Into an Eden fair;
And where, erstwhile, the brambles grew,
  Sets use and beauty there.

Whoso contributes of his skill
To lure from out the sod
A single blessing for mankind
Collaborates with God;
For 'twas the primal curse that fell
Upon the erring race
That this old world should be transformed
By sweat of brow and face.

Then plant for me, and dig and delve,
Adorn some spot of earth,
Let some new charm in this old world
Trace back to thee its birth,
That when thy brow is bending low,
And faltering is thy tread,
Some unknown traveler will breathe
Choice blessings on thy head.

— BEECHER W. WALTERMIRE, Author of "Buckeye Ballads"

THE TREE

What do we plant when we plant the tree?
We plant the ship which will cross the sea;
We plant the mast to carry the sails;
We plant the planks to withstand the gales,
The keel, the keelson, the beam, the knee —
We plant the ship when we plant the tree.

What do we do when we plant the tree?
We plant the house for you and me.
We plant the rafters, the shingles, the floors;
We plant the studding, the lath, the doors,
The beams, and siding, all parts that be —
We plant the house when we plant the tree.

What do we do when we plant the tree?
A thousand things that we daily see;
We plant the spire that out-towers the crag;
We plant the staff for our country's flag;
We plant the shade from the hot sun free —
We plant all these when we plant the tree.

— HENRY ABBEY

THE BLUEBIRD

I am so blithe and glad to-day!
At morn I heard a bluebird sing;
The bluebird, warbling soul of spring,
The prophet of the leafy May, —
And I knew the violets under the tree
Would listen and look the birds to see,
Peeping timidly, here and there,
In purple and odor to charm the air;

And the wind-flower lift its rose-veined cup,
In the leaves of the old year buried up;
And all the delicate buds that bloom
On the moss-beds, deep in the forest gloom,
Would stir in their slumber, and catch the strain
And dream of the sun and the April rain, —
For spring has come when the bluebird sings,
And folds in the maple his glossy wings,
And the wind may blow, and the storm may fall,
But the voice of summer is heard in all.

I am so blithe and glad to-day!
My heart, beside the bluebird, sings,
And folds serene its weary wings,
And knows the hours lead on to May.

— Edna Dean Proctor

SIR ROBIN

Rollicking Robin is here again.
What does he care for the April rain?
Care for it? Glad of it. Doesn't he know
That the April rain carries off the snow,
And coaxes out leaves to shadow his nest,
And washes his pretty red Easter vest,
And makes the juice of the cherry sweet,
For his hungry little robins to eat?

. . . .

Robin, Sir Robin, gay, red-vested knight,
Now you have come to us, summer's in sight;
You never dream of the wonders you bring,
Visions that follow the flash of your wing;
How all the beautiful by-and-by
Around you and after you seems to fly!
Sing on, or eat on, as pleases your mind,
Well have you earned every morsel you find.

— Lucy Larcom

THE HAPPY BIRDS

Do you ne'er think what wondrous beings these?
   Do you ne'er think who made them and who taught
The dialect they speak, where melodies
   Alone are the interpreters of thought?
Whose household words are songs in many keys,
   Sweeter than instrument of man e'er caught!
Whose habitations in the treetops even
Are halfway houses on the road to heaven!

Think, every morning when the sun peeps through
   The dim, leaf-latticed windows of the grove,
How jubilant the happy birds renew
   Their old, melodious madrigals of love!

And when you think of this, remember, too,
 'Tis always morning somewhere, and above
The awakening continents, from shore to shore,
Somewhere the birds are singing evermore.
— LONGFELLOW, "Birds of Killingworth"

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